

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Method for manufacturing smart cards, ~~the said smart card~~ each having an antenna ~~[[the]]~~ with ends of ~~which are provided with or~~ connection pads for connection to an electronic module, comprising the following steps:

~~at least one stage consisting in producing the antenna having~~ with at least two turns, on a support sheet, such that said antenna having its turns are located outside the connection pads and encircle said pads, ~~an insulating bridge so as to connect each and connecting at least one of the ends of the antenna to a~~ respective one of said connection pads pad respectively by means of an insulating bridge disposed on a surface of said turns that is away from said support sheet.

2. (Currently Amended) ~~Manufacturing~~ A method according to Claim 1, wherein the insulating bridge is produced by covering the turns of the antenna with an insulating layer in one zone ~~(Z)~~, ~~then by~~ and depositing on this insulating layer a conductive element so that one outer end of the antenna can be connected to one connection pad.

3. (Canceled)

4. (Currently Amended) ~~Manufacturing~~ A method according to claim 1, further comprising the following steps:

assembling the support sheet to plastic foils to form a card body,
machining a cavity and connection recesses in an upper face of the card body, ~~the machining~~ so that the machined plane of the cavity ~~being~~ is situated below the plane of the connection pads of the antenna, and the connection recesses ~~being~~ are situated above the connection pads of the antenna in order to expose ~~[[them]]~~ said pads, and

fixing an electronic module ~~[[M]]~~ into the cavity, the module having on its lower side, facing towards the inside of the cavity, conductive pads in electrical contact with the connection pads of the antenna by means of a conductive linking element located in the connection recesses.

5. (Withdrawn) Method of manufacturing a smart card, the said smart card comprising an antenna at the ends of which connection pad are provided for connection with an electronic module, comprising:

at least one stage consisting in machining a cavity and connection recesses in an upper face of the card body, in such a way that the machining plane of the bottom of the cavity is situated above the plane of the antenna and the connection recesses are situated above the connection pads of the antenna, enabling them to be exposed.

6. (Currently Amended) ~~Manufacturing~~ A method according to claim ~~[[1]]~~ 4, wherein the support sheet is located between the plastic foils so as to form the neutral axis of the card.

7. (Currently Amended) ~~Manufacturing~~ A method according to claim 1, wherein the antenna is produced by incrustation on the support sheet.

8. (Currently Amended) ~~Manufacturing~~ A method according to claim 1, wherein the connection pads are produced in a zigzag pattern.

9. (Currently Amended) ~~Manufacturing~~ A method according to claim ~~[[1]]~~ 4, wherein the machining of the connection recesses is carried out through the connection pads of the antenna.

10. (Currently Amended) ~~Manufacturing~~ A method according to claim ~~[[1]]~~ 4, wherein the connection recesses are diametrically opposite each other and are situated on a mid-perpendicular of the cavity.

11. (Currently Amended) ~~Manufacturing~~ A method according to claim ~~[[1]]~~ 4, wherein the connection recesses are situated side-by-side and on either side of a mid-perpendicular of the cavity.

12. (Currently Amended) ~~Manufacturing~~ A method according to claim 1, wherein the electronic module comprises an integrated circuit microchip and a

single-sided printed circuit having ~~[[the]]~~ flush contact zones defined by ~~[[the]]~~ an ISO standard, ~~characterised in that the~~ and wherein said pads ~~providing contact with the antenna~~ are located outside the contact zones defined by the ISO standard,

13. (Currently Amended) Manufacturing A method according to claim ~~[[1]]~~ 4, wherein the electronic module ~~[[M]]~~ comprises an integrated circuit microchip and a double-sided printed circuit without conductive paths between ~~[[the]]~~ its two faces, the double-sided circuit comprising an insulating foil ~~carrying~~ having on one face a first set of conductive pads ~~intended to serve as~~ that form access contacts for the smart card, and on the other face a second set of conductive pads ~~intended to be~~ that are connected to the antenna, ~~[[the]]~~ and wherein said connection pads ~~comprising~~ comprise contact zones located on the same side of the cavity and on either side of a mid- perpendicular of this cavity, or on a mid-perpendicular of the cavity on two opposite sides, ~~[[the]]~~ each said contact zone being extended by a track with its edge parallel to the electronic module.

14. (Currently Amended) Manufacturing A method according to claim 1, wherein the connection between the connection pads of the antenna and ~~the~~ ~~conductive pads of~~ the module ~~[[M]]~~ is formed by a solder with a low melting point.

15. (Currently Amended) Manufacturing A method according to Claim 14, wherein the solder ~~[[used]]~~ comprises an alloy with a basis of indium and tin

16. (Currently Amended) ~~Manufacturing~~ A method according to claim 14, wherein the solder ~~[[used]]~~ comprises not more than 52% by weight of indium and 48% by weight of tin.

17. (Currently Amended) ~~Manufacturing~~ A method according to Claim 14, wherein the solder ~~[[used]]~~ comprises an alloy with a basis of bismuth, tin and lead.

18. (Currently Amended) ~~Manufacturing~~ A method according to Claim 17, wherein the solder ~~[[used]]~~ comprises not more than 46% by weight of bismuth, 34% by weight of tin and 20% by weight of lead.

19. (Currently Amended) ~~Manufacturing~~ A method according to Claim 14, wherein the solder ~~[[used]]~~ comprises an alloy with a basis of bismuth, tin and indium.

20. (Currently Amended) ~~Manufacturing~~ A method according to ~~Claims~~ Claim 19, wherein the solder ~~[[used]]~~ comprises not more than 57% by weight of bismuth, 26% by weight of indium and 17% by weight of tin,

21. (Currently Amended) ~~Manufacturing~~ A method cording to claim 1, wherein the connection between the connection pads of the antenna and the

~~conductive pads~~ of the module ~~[[M]]~~ is formed by means of a grease charged with metallic particles.

22. (Currently Amended) ~~Manufacturing A~~ method according to claim 1, wherein the connection between the connection pads of the antenna and ~~the~~ ~~conductive pads of the module [[M]]~~ is formed by means of a silicon gasket charged with metallic particles.

23. (Currently Amended) ~~Manufacturing A~~ method according to claim 1, wherein further including the step of depositing balls of gold ~~are additionally deposited~~ by thermo compression on ~~the conductive pads of the module [[M]]~~ in order to increase the bonding surface between the module and the antenna.

24. (Currently Amended) ~~Manufacturing A~~ method according to claim 2, further comprising the following steps:

assembling the support sheet to plastic foils to form a card body;

machining cavity and connection recesses in an upper face of the card body, ~~the machining~~ so that the machined plane of the cavity ~~[[being]]~~ is situated below the plane of the connection pads of the antenna, and the connection recesses ~~[[being]]~~ are situated above the connection pads of the antenna in order to expose ~~[[them]]~~ said pads; and

fixing an electronic module [(M)] into the cavity, the module having on its lower side, facing towards the inside of the cavity, conductive pads in electrical contact with the connection pads of the antenna by means of a conductive linking element located in the connection recesses.

25. (Withdrawn) Manufacturing method according to claim 5, wherein the support sheet is located between the plastic foils so as to form the neutral axis of the card.

26. (Withdrawn) Manufacturing method according to claim 5, wherein the connection between the connection pads of the antenna and the conductive pads of the module (M) is formed by means of a grease charged with metallic particles.

27. (Withdrawn) Manufacturing method according to claim 20, wherein the connection between the connection pads of the antenna and the conductive pads of the module (M) is formed by means of a grease charged with metallic particles.

28. (Withdrawn) Manufacturing method according to claim 5, wherein the connection between the connection pads of the antenna and the conductive pads of the module (M) is formed by means of a silicon gasket charged with metallic particles.

29. (Withdrawn) Manufacturing method according to claim 20, wherein the connection between the connection pads of the antenna and the conductive pads of the module (M) is formed by means of a silicon gasket charged with metallic particles.

30. (Withdrawn) Manufacturing method according to claim 5, wherein balls of gold are additionally deposited by thermo-compression on the conductive pads of the module (M) in order to increase the bonding surface between the module and the antenna.

31. (New) A support sheet, comprising:

an antenna winding with at least two turns, a pair of connection pads both disposed on a common side of said antenna winding, an insulating material covering a zone across said antenna winding, and a conductive element on said insulating material that connects an end of said winding on a side opposite said common side to one of said connection pads.

32. (New) A smart card including the support sheet of claim 31.

33. (New) A smart card including the support sheet of claim 31 and an integrated circuit chip connected to said connection pads.

34. (New) A support sheet, comprising:

an antenna winding with at least two turns and a pair of ends that are respectfully associated with two connection points, said antenna being incrustated on said sheet and including a link that crosses said turns to connect the outside turn to one of said connection points, with said link being insulated from said turns to avoid a short circuit.

35. (New) The support sheet of claim 34 wherein said antenna is incrustated on said support sheet by means of an ultrasound technique.

36. (New) A smart card including the support sheet of claim 34.

37. (New) A smart card including the support sheet of claim 34 and an integrated circuit chip connected to said connection pads.

38. (New) A method for manufacturing smart cards, comprising the following steps:

providing a support sheet having an antenna with a plurality of turns, a pair of connection pads disposed on a common side of said turns, and a link crossing said turns that connects the opposite side of said turns to one of said connection pads;

laminating said support sheet between a pair of plastic sheets;

machining a cavity in one of said plastic sheets subsequent to said laminating step to expose said connection pads; and

placing an integrated circuit chip within said cavity so as to be in electrical contact with said connection pads.

39. (New) The method of claim 38 wherein said integrated circuit chip is disposed within a module having conductors on one side for connecting said chip to said connection pads, and conductors on the opposite side that provide access to the smart card.